

# GFEI – The Chile Case

*Regional Implementation of the Global Fuel Economy Initiative (GFEI)*

*Podgorica, Nov 20 2015*

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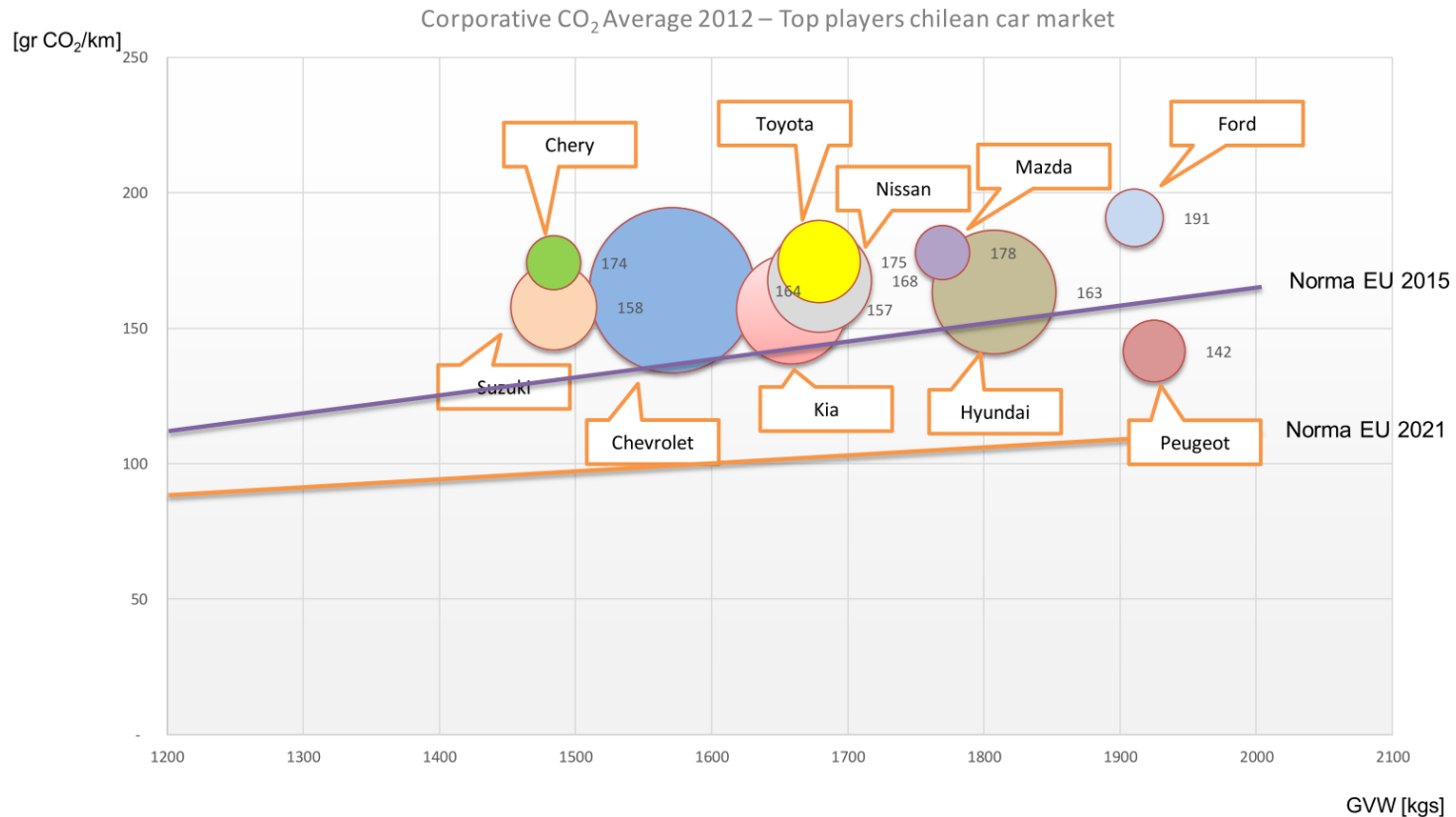
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- **Market overview of LDVs in Chile**
- **Development of fuel economy baseline**
- **Introduction of vehicle labelling scheme**
- **Proposal of feebate**
- **Final legislation: Fuel consumption and air pollution tax**
- **Lessons learned**

# **GFEI local partner: Centro Mario Molina**

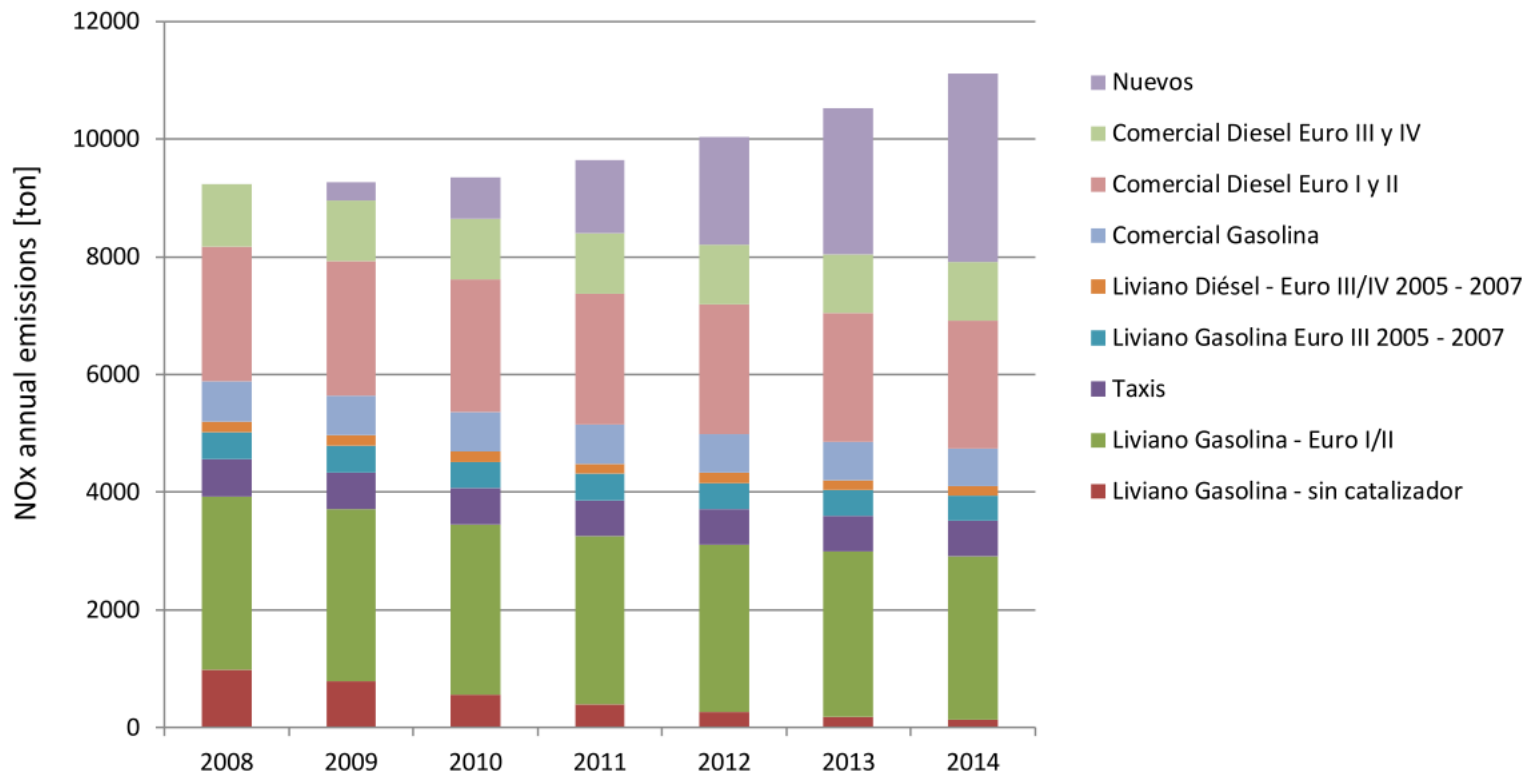
- **Is a private institution created under the sponsorship of Nobel Prize Professor Mario Molina**
- **Its mission is to create capacities in South America to address the problem of air quality and climate change**
- **Is a R&D Centre under CORFO Law for the promotion of private investments in R&D**
- **Is dedicated to research and studies in air pollution and energy in South America**
- **Rises funds from private companies, governments and international institutions**

# Chile – Emissions of top selling cars



- Most selling models in Chile are well above EU CO<sub>2</sub> emission standards

# NOx Emissions from LDVs in Santiago Metropolitan Region



- **NOx emissions are growing over time due to fleet growth**

# First GFEI case study: Chile

- **Started in 2010, focus on:**
  - Fuel Economy (FE) and emission baseline of the vehicle market
  - FE labelling
  - FE and low emission vehicle policy proposal
- **Expanding now to Peru, Uruguay and Paraguay**

# Preconditions in Chile

- **Strong institutions for enforcement of vehicle standards**
- **Importation of second hand cars is banned**
- **Good fuel quality**
- **Mature system for type approval and conformity of production of vehicle market**
- **Vehicle model emissions and FE data available**
- **Sales data available.**

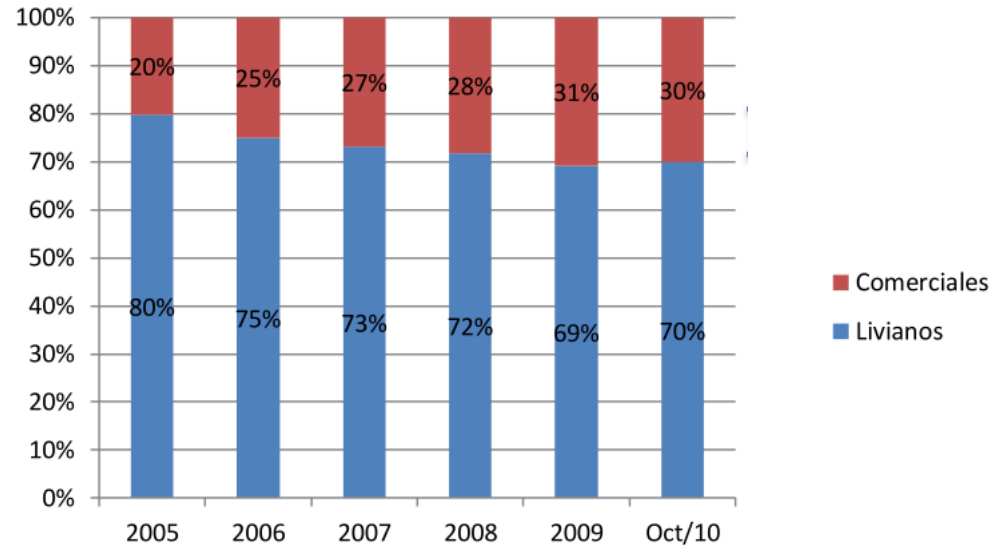
# First Step: Characterization of Vehicle market – Baseline development

- Development of the CO<sub>2</sub>/FE baseline
- Official report presented in September 2010 during a conference with Transport Vice Minister and John German from ICCT



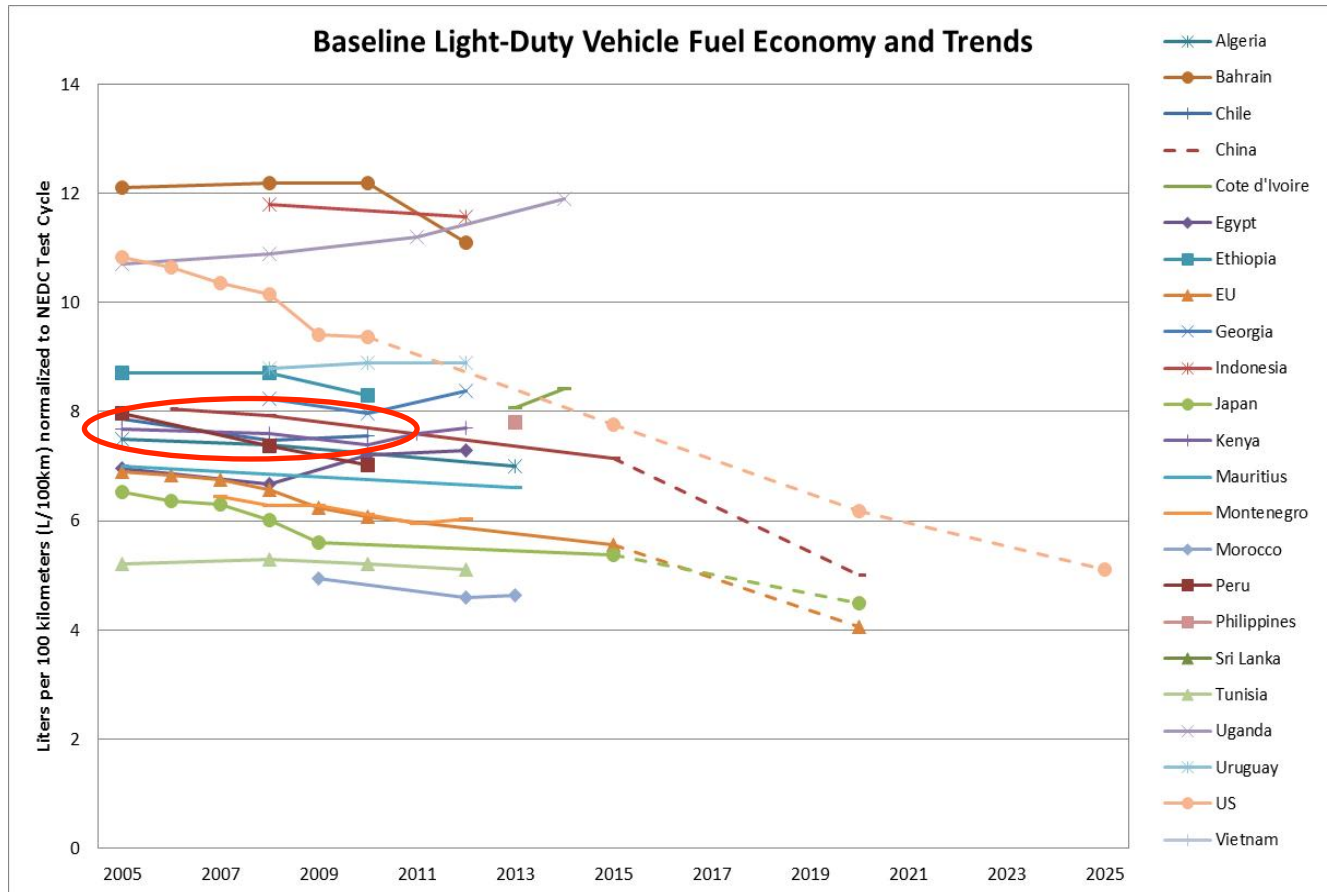


# Distribution of the LDV market



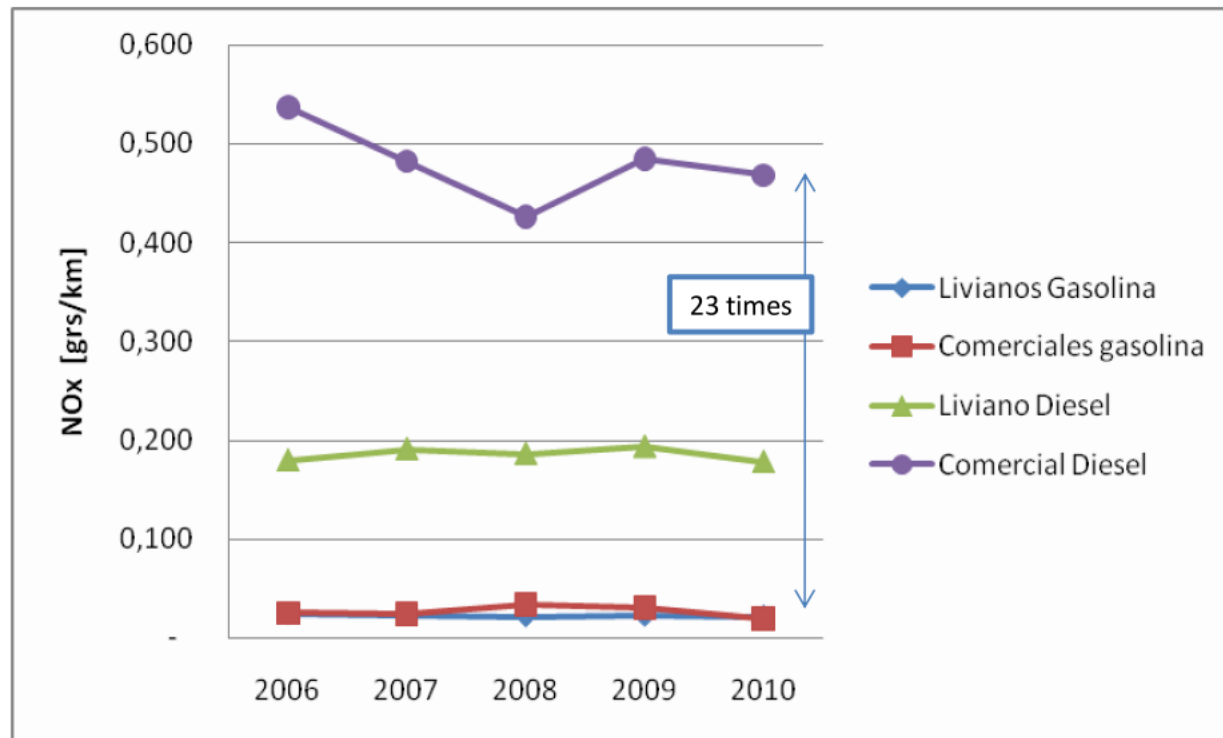
- The share of big SUVs and pick-ups increased strongly
- In the same time, the Chile LDV market almost doubled

# Chile – FE baseline



- Average new vehicle FE in Chile is worse than in many developed markets

# Market average NOx emission comparison



- Diesel SUV and pick-ups show more than 20 times higher NOx emissions than gasoline PCs

# Comments

- **Vehicle market presents segments with broad bandwidth emissions**
- **Light duty trucks and SUVs vehicles are taking more market share**
- **Light duty trucks and SUVs diesel vehicles have high emissions of NO<sub>x</sub> and PM**
- **Fuel consumption and CO<sub>2</sub> emissions are high in comparison with international average**

# Second Step: Fuel Economy Labelling

- **Different formats depending on national negotiations with car manufactures:**
  - Only absolute information, without references to the rest of the market – no ranking
  - Relative information considering comparison with other car models
  - Running cost included
- **Link with other incentives:**
  - In some cases labelling information used for tax or feebate systems

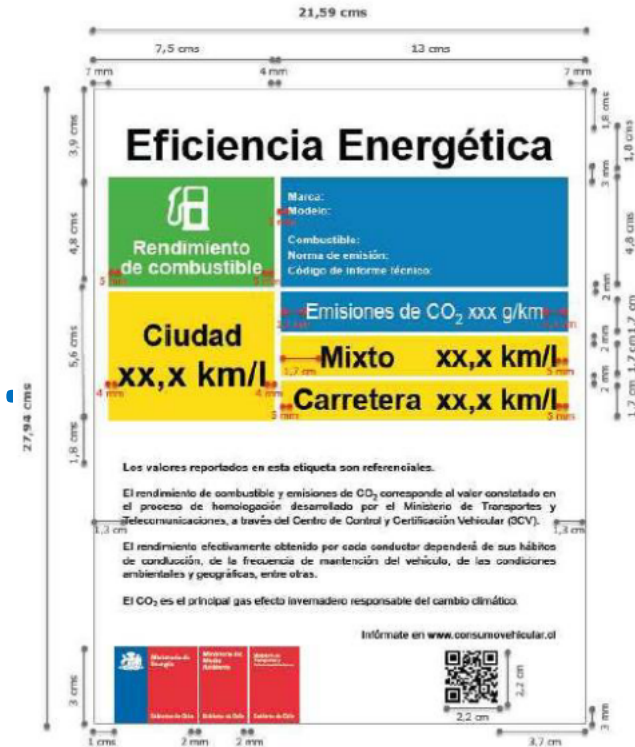
# FE Labelling in Chile

- Agreement between Ministries of Transport, Environment and Energy with Association of car manufactures/importers on December of 2010
- Voluntary until January 2012, then mandatory
- Official decree of Transport Ministry says that any vehicle in a car dealer show room must exhibit the label



# FE Labelling in Chile

- Based on NEDC information from emission type approval process
- Applies for light duty vehicles.
- It's the only one mandatory labeling system in LAC.



# Third Step: Proposal of a First Fuel Economy Policy

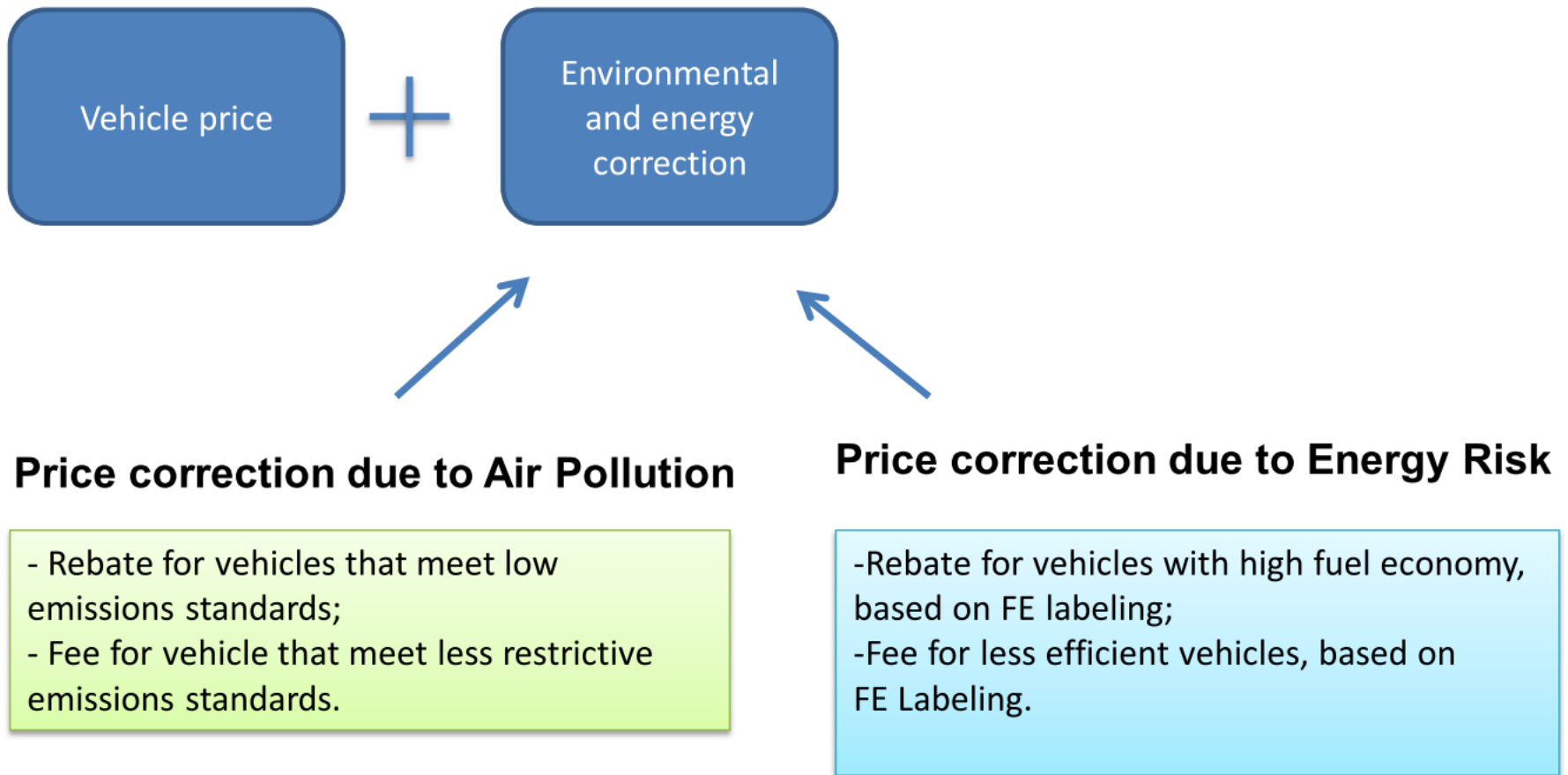
- Labelling is not enough – it is important to link the label to incentives
- A study of ADAC in Europe shows that
  - Running cost are important (more than environmental performance) but reliability of the car, comfort, vehicle type and price are even more important

## → Feebate proposal for Chile

- The proposal is based on French Bonus/malus system, but including CO<sub>2</sub> and local pollutants.
- The objective is to promote more clean and efficient vehicles to reduce air pollution problems in big cities and to reduce national energy risk.



# Feebate proposal for Chile



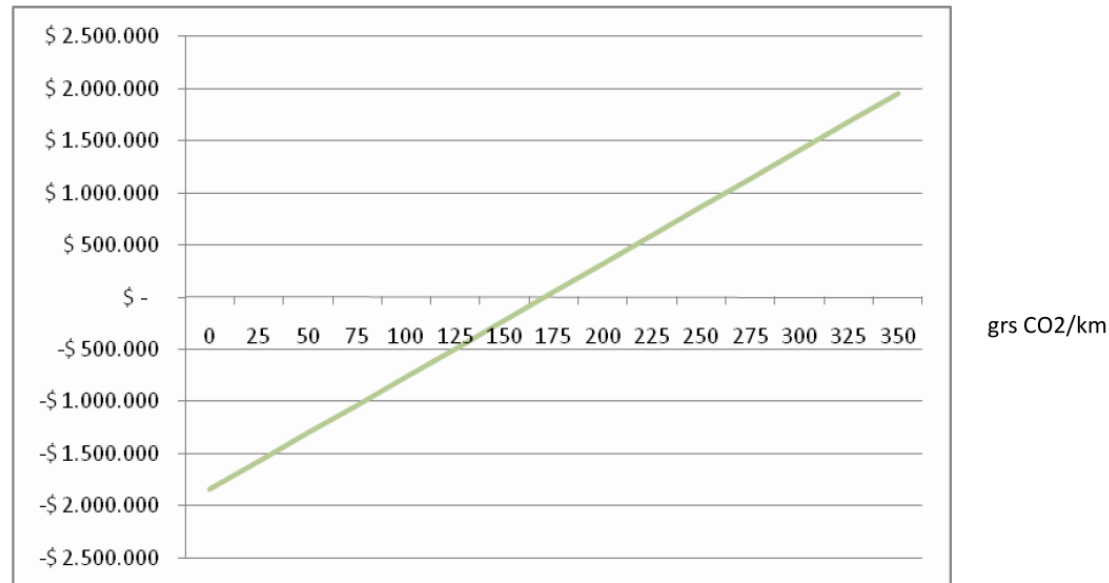
- **Includes two layers – air pollution and fuel use**

# Chile - Proposed feebate for CO<sub>2</sub> emission/fuel economy

- $$\text{Feebate [C\$]} = 10.875 * \text{CO}_2 \text{ [gCO}_2\text{/km]}$$

+1, 1 US\$= 500 Chilean \$

for

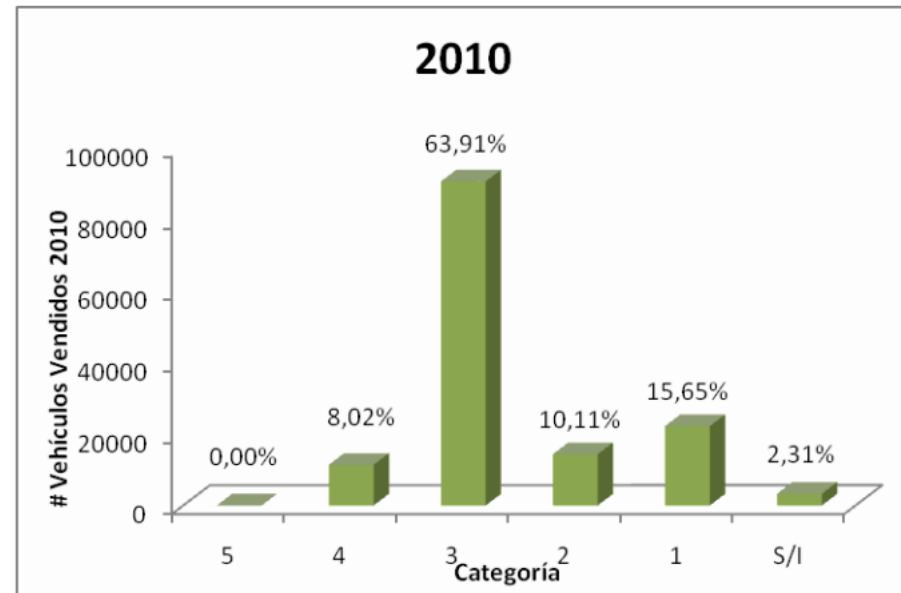


For a vehicle with a footprint equal to market average

# Chile – Proposed feebate for air pollution

NOx	Categoría	Tipo	Norma	Incentivo US\$	Desincentivo US\$
Cero emisión	6			1000	0
Nox ≤ 0,1	5	M1 Gasolina	EURO V / VI	500	0
		M1 Diesel	EURO VI		
		N1 Diesel Class I	EURO VI		
		N1 Gasolina Class I	EURO V / VI		
		N1 Gasolina Class II	EURO V / VI		
		N1 Gasolina Class III	EURO V / VI		
0,1 < NOx ≤ 0,2	4	M1 Gasolina	EURO IV	0	0
		M1 Diesel	EURO V		
		N1 Gasolina Class I	EURO IV		
		N1 Gasolina Class II	EURO IV		
		N1 Gasolina Class III	EURO IV		
		N1 Diesel Class I	EURO V		
		N1 Diesel Class II	EURO VI		
		N1 Diesel Class III	EURO VI		
		N2 Gasolina	EURO IV		
		N2 Diesel	EURO VI		
0,2 < NOx ≤ 0,3	3	M1 Gasolina	EURO III	0	500
		M1 Diesel	EURO IV		
		N1 Gasolina Class I	EURO III		
		N1 Gasolina Class II	EURO III		
		N1 Diesel Class I	EURO IV		
		N1 Diesel Class II	EURO V		
		N1 Diesel Class III	EURO V		
		N2 Diesel	EURO V		
0,3 < NOx ≤ 0,5	2	M1 Diesel	EURO III	0	1000
		N1 Gasolina Class III	EURO III		
		N1 Diesel Class I	EURO III		
		N1 Diesel Class II	EURO IV		
		N1 Diesel Class III	EURO IV		
0,5 < NOx ≤ 0,8	1	N1 Diesel Class II	EURO III	0	1500
		N1 Diesel Class III	EURO III		

Chile market share for feebate class



**Strong disincentive for polluting diesel vehicles**

# Chile – Proposed benefits

- **US\$ 200 millions annual saves in less petroleum importation (five years after adoption)**
- **833.000 tons of CO<sub>2</sub> annual emission reductions (five years after adoption)**
- **At same date, the owner of a medium size sedan/hatchback saves 260 US\$ per year due to less consumption of gasoline**

# Result: Fuel consumption and air pollution tax in Chile

- In 2014 the Chilean Congress approved the most important tax reform in the last 30 years, which included a fee for fuel consumption and the levels of NOx emission produced by the vehicle based on the FE label information.
- The tax was developed from the feebate proposal (but is based on a tax incentive/disincentive) and has been in force from December of 2014.



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GFEI presents fuel economy policy ideas to Chilean Minister of Environment

26/07/2011

GFEI has been working hard with Centro Mario Molina, and have just presented the feebate proposal developed to the Minister of Environment.

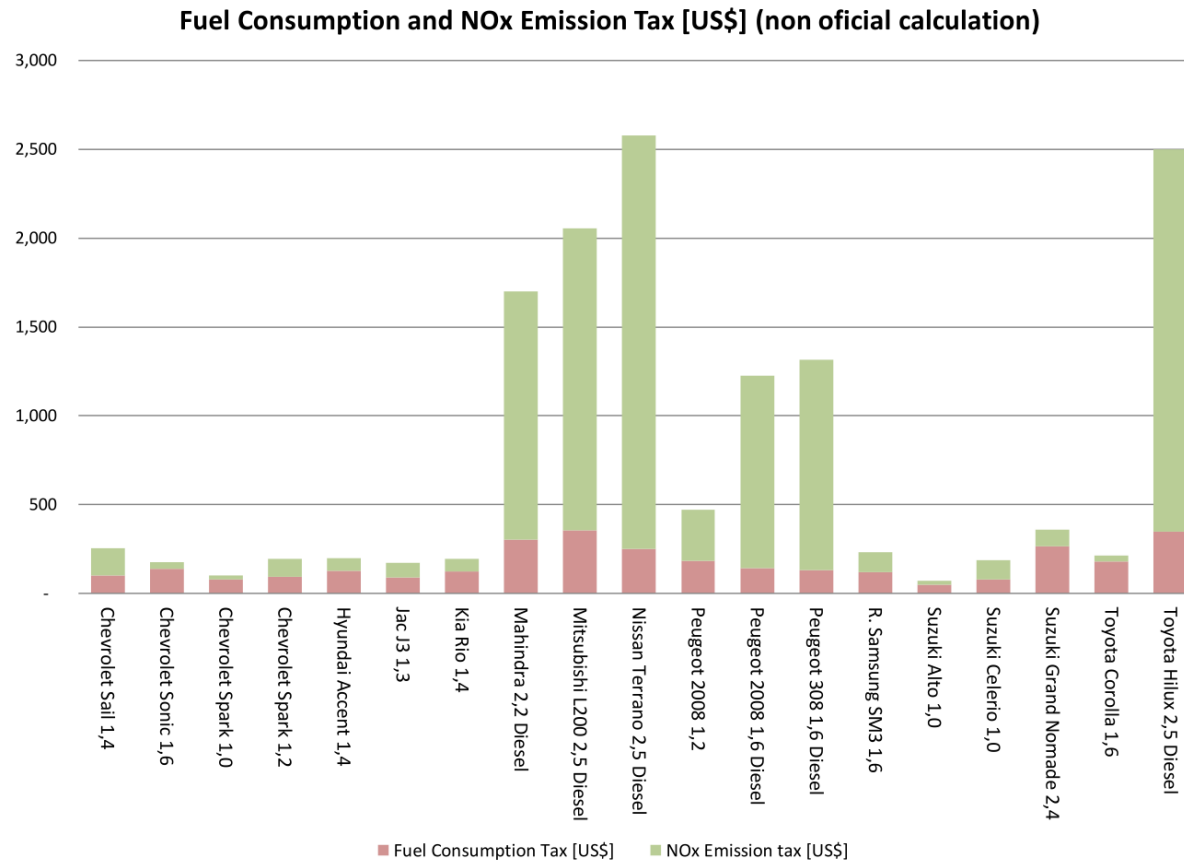
Professor Mario Molina of Centro Mario Molina Chile (CMMCh), met with the Chilean Environmental Minister Maria Ignacia Benitez on June 28th and presented the proposal of an incentives system for more clean and efficient vehicles that UNEP and CMMCh developed with ICCT support. The Minister has committed to promote the initiative within the government. In one week's time CMMCh will meet with the Viceminister of Transport where they will also present the proposal before further discussions take place with manufacturers and others.

[Click here to view CNN Chile interview where Gianni Lopez, Director of CMMCh talks about clean cars >](#)



Professor Mario Molina of Centro Mario Molina Chile (CMMCh) meets with the Chilean Environmental Minister Maria Ignacia Benitez

# Result: Fuel economy and emission tax by model



- Big diesel SUVs and pick-ups pay high fees

# Summary

- The tax heavily weights NOx emission, affecting diesel vehicles significantly higher than gasoline cars
- The heavy taxation for diesel vehicles corresponds to less restrictive NOx limits for diesel vehicles within Euro standards (Chile now is Euro 5) compared to gasoline vehicles
- Tax for fuel consumption and Labeling are promoting a strong attention on fuel economy.
- A national fuel economy standard will be in discussion during next year

# Lessons learned

## Gianni Lopez, Centro Mario Molina:

- *“The success with the introduction of the national policy on fuel economy and air pollution is based on the existing institutional capacities for the control of emission standards within the vehicle market;*
- *Car manufactures and dealers are the most critical barrier for the introduction of advanced and efficient policies. The position of the big manufactures in developed countries are not reflected on developing countries market”.*



# Thanks a lot!

For further questions please contact:

- Gianni Lopez

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